plunger has moved to the distal end of syringe, distance measuring means for measuring the travel distance of the plunger based on the travel amount detecting means and the distal end detecting means, input means capable of inputting the capacity of syringe, and storage means capable of storing the travel distance of plunger measured by the distance measuring means and the capacity of syringe input by the input means, and the control means comprising means for controlling the injection of chemical solution in the syringe accomplished via the plunger pressing means based on the travel distance of the plunger and the capacity of the syringe.

According to the above-described invention, the syringe is set on the holding portion, and the capacity of the syringe is input. Then, the distal end of the plunger is set at the maximum scale position of the syringe.

Next, the plunger is pressed in the axial direction by the plunger pressing means. When the plunger moves to the distal end of the syringe, the distal end of the syringe is detected by the distal end detecting means. Based on the outputs of the travel amount detecting means and the distal end detecting means, the travel distance of the plunger is measured by the distance measuring means.

Next, the input capacity of syringe and the measured travel distance of plunger are stored in the storage means. If at least the capacity of syringe and the travel distance of plunger are found, the amount of the chemical solution injected from the syringe can be judged by comparing the whole travel distance

SCOPE OF CLAIMS

1. A syringe pump comprising:

a holding portion for holding a syringe provided with a scale in its peripheral wall for checking the amount of a chemical solution filled therein;

plunger pressing means for pressing and moving a plunger inserted in the syringe held by said holding portion, in the axial direction to inject the chemical solution in the syringe;

control means for controlling said plunger pressing means so that said plunger pressing means presses the plunger continuously at a predetermined speed,

travel amount detecting means for detecting the travel amount of the plunger;

distal end detecting means for detecting the fact that the plunger has moved to the distal end of syringe;

distance measuring means for measuring the travel distance of the plunger based on said travel amount detecting means and said distal end detecting means;

input means capable of inputting the capacity of syringe; and

storage means capable of storing the travel distance of plunger measured by said distance measuring means and the capacity of syringe input by said input means, and

said control means comprising means for controlling the injection of chemical solution in the syringe accomplished

via said plunger pressing means based on the travel distance of the plunger and the capacity of the syringe.

2. The syringe pump according to claim 1 comprising:

outside diameter detecting means for detecting the outside diameter of the syringe held by said holding portion;

capacity calculating means for calculating the capacity of the syringe based on the outside diameter of syringe detected by said outside diameter detecting means and the travel distance of plunger measured by said distance measuring means;

difference calculating means for calculating a difference between the capacity of syringe calculated by said capacity calculating means and the capacity of syringe input by said input means; and

registration means which accepts the storage in said storage means if the difference in capacity of syringe calculated by said difference calculating means is within a predetermined range.

3. The syringe pump according to claim 2, wherein said storage means comprises an initial syringe data storage section which stores in advance predetermined data including the outside diameters of predetermined syringes of a plurality of kinds, and at least the capacity of syringe and the travel distance of plunger, which correspond to the syringe of each outside diameter.